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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/025,578	12/26/2001	David Hooke	SW-00786	9127

7590 12/18/2003
Robert A. Schruhl
1011 Lockheed Way
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EXAMINER

ORTIZ RODRIGUEZ, CARLOS R

ART UNIT	PAPER NUMBER
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2125

DATE MAILED: 12/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Pre

Office Action Summary	Application No. 10/025,578	Applicant(s) HOOKE ET AL.	
	Examiner Carlos Ortiz-Rodriguez	Art Unit 2125	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 April 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 17 and 18 is/are allowed.
- 6) ☒ Claim(s) 1-6, 8, 9, 14 and 16 is/are rejected.
- 7) ☒ Claim(s) 7, 10-13 and 15 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2 and 3. 6) ☐ Other: _____

DETAILED ACTION

Oath/Declaration

1. Each applicant's mailing or post office address is required to be supplied on the oath or declaration, if not stated in an application data sheet. The mailing or post office address may be provided in an application data sheet or a supplemental oath or declaration. See 37 CFR 1.63(c) and 37 CFR 1.76.

Claim Objections

2. Claim 3 objected to because of the following informalities: Line 6 states the term "at least on laser", it seems to be "at least one laser". Appropriate correction is required.

3. Claim 14 objected to because of the following informalities: Line 16 states the term "such that head", it seems to be "such that the head". Appropriate correction is required.

4. Claim 15 objected to because of the following informalities: Line 8 states the term "machiningoperations", it seems to be "machining operations". Appropriate correction is required.

Allowable Subject Matter

5. Claims 7, 10-13 and 15 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. Claim 8 and 16 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Claim 9 and 14 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

7. Claims 17 and 18 allowed.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 6, 8-9, 14 and 16 are rejected under 35 U.S.C. 112, second paragraph.

Regarding claim 6, recites the limitation "said laser determination system" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim. Additionally, claim 6 fails to conform with current U.S. practice containing idiomatic errors.

Regarding claim 8, recites the limitation "said at least one target" in lines 1-2. Additionally, claim 8, recites the limitation "said at least one laser target" in lines 3. There is insufficient antecedent basis for these limitations in the claim.

Regarding claim 9, recites the limitation "the actual spatial relationship" in lines 7-8. Additionally, claim 9, recites the limitation "the spatial relationship" in lines 8-9. Furthermore,

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claim 9, recites the limitation "the actual position" in line 10. There is insufficient antecedent basis for these limitations in the claim.

Regarding claim 14, recites the limitation "the computer" in lines 5-6. Additionally, claim 9¹⁴ recites the limitation "the actual spatial relationship" in line 8. There is insufficient antecedent basis for these limitations in the claim.

Regarding claim 16, recites the limitation "the actual position" in line 6. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koch et al. U.S Patent No. 4,698,775 in view of Kyrakis U.S. Patent No. 5,666,202.

Regarding claim 1, Koch et al. discloses a machine for performing machining operations on a work-piece comprising: a carriage(see abstract lines 1-2); a robotic arm mounted on said carriage(see abstract line 3), said arm having a movable head containing a tool for performing the machining operations on the work-piece(see fig 1); a laser position determination system for

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determining the actual spatial relationship of said carriage and said work-piece and providing a first signal(laser) representative thereof (see col 2 lines 20-25) and a computer having a computer program providing a third signal to said robotic arm for machining the work-piece based on a predetermined spatial relationship between said carriage and the work-piece and for receiving said first and second signals and adjusting said third signal based on the actual spatial relationship between said carriage and the work-piece prior to machining operations and said head and the work-piece during machining operations(see col 2 lines 25-29).

But, Koch et al. fails to clearly specify details regarding the spatial relationship of the head to the work-piece.

However, Kyrazis discloses determining the spatial relationship of said head to the work-piece during actual machining operations on the work-piece and providing a second signal representative thereof(see abstract lines 34-37).

Therefore at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the above invention suggested by Koch et al. and combining it with the invention disclosed by Kyrazis. The results of this combination would lead to a machine for performing machining operations on a workpiece and method of controlling the same.

One of ordinary skill in the art would have been motivated to do this modification in order to provide real time control as disclosed by Kyrazis.

Regarding claim 2, Koch et al. in combination with Kyrazis disclose all the limitations of base claim 1. Koch et al. further discloses the machine wherein said carriage is portable(see col

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2 line 2).

Regarding claim 3, Koch et al. in combination with Kyrasis disclose all the limitations of base claim 2. Koch et al. further disclose the machine wherein said laser position determination system includes: a laser transceiver system; at least one first laser target mounted on said carriage(see col 2 line 26); at least one second laser target mounted on the work-piece(see col 2 line 23); and at least on laser target mounted on said head(see col 2 line 27).

Regarding claim 4, Koch et al. in combination with Kyrasis disclose all the limitations of base claim 3. Koch et al. further disclose the machine wherein the carriage includes means to lock the machine in a position in proximity to the work-piece lines(see col 7 13-14).

Regarding claim 5, Koch et al. in combination with Kyrasis disclose all the limitations of base claim 2. Kyrasis further disclose the machine wherein said laser position determination system includes a single laser transceiver assembly adapted to track said at least one first, second and third laser target(see col 7 line 7)

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following patents are cited to further show the state of the art with respect to machine for performing machining operations on a workpiece and method of controlling same:

- a. U.S. Pat. No. 5,413,454 to Movsesian, which discloses mobile robotic arm.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carlos Ortiz-Rodriguez whose telephone number is (703) 305-8009. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo P. Picard can be reached on (703) 308-0538. The central official fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

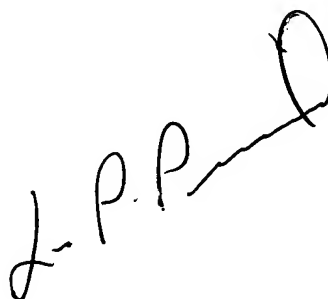
Carlos Ortiz-Rodriguez

Patent Examiner

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cror

December 15, 2003

A handwritten signature in black ink, appearing to read 'L. P. Picard', written diagonally across the page.

LEO PICARD
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100